

Remarks

Claim status

Claims 1, 3-15, 17, 18, 20 and 22 were pending. Claims 1 is amended. Claim 18 and 22 are canceled. Claim 23 and 24 are newly added, depending from claim 1, and support can be found in page 41, Example 1. No new matter is added.

Rejections Under 37 C.F.R. § 103

Claim 1, 3-6, 8-14 and 22 are rejected under 35 U.S. C. 103 (a) as being allegedly unpatentable over Bauer et al (US 6548121) in view of Itoh (WO0176866=US2003/0194573) in view of Affinito II (US 6358570) in view of Borden et al (US 4233130) as evidenced by Callister et al (Callister, William D. "Materials Science and Engineering: an Introduction". 4th Edition (1997) New York, John Wiley and sons. P 477) for the reasons as stated in page 3-9 of the Office Action; Claims 7, 15, 17 and 18 are rejected under 35 U.S. C. 103 (a) as being allegedly unpatentable over Bauer et al (US 6548121) in view of Affinito II (US 6358570), in view of Borden et al (US 4233130), and further in view of Kihler et al (US 6251963) for the reasons as stated in page 9-11 of the Office Action.

Applicants respectfully traverse in light of the amended claims. Claim 1 is amended to limit wherein the substrate is aluminum or substrate metalized with aluminum. (Support can be found in page 10, 4th and 5th paragraphs of the specification.) Claim 1 is also amended to limit step b) "under normal pressure". (Support can be found in page 4, 3rd paragraph). This is significant because the objective of present invention is to provide a cost effective process for obtaining coatings with excellent adhesion under normal pressure. Claim 1 is further amended to narrow the radiation range and dosage to the preferred range of 250 - 500 nm and 10- 200 mJ/cm². (Support can be found in page 26, 6th paragraph and page 27, 4th paragraph.) Claim 1 is also amended to limit only step d2), so the invention related to obtaining strong adherent printing ink is claimed.

Bauer does not teach or suggest obtaining coating on aluminum or aluminum metalized substrate, as presently amended. Bauer also does not teach a step of d2).

Affinito II relates to the formation of solid polymer under vacuum, touting the advantage of vacuum deposition **to avoid or to use less photoinitiator** for the benefit of purity in the polymer electrolyte (Affinito II, Abstract). The present invention serves almost opposite objective - to provide a cost effective process by employing appropriate photoinitiator while avoid using high cost vacuum equipment. One skilled in the art would not have been motivated by Affinito II teaching of avoiding photoinitiator to modify Bauer's method and arrive at the present invention that relies on activating photoinitiator for curing.

Itoh relates to multilayer structure and wiring board having polymer layer between a conducting layer and an adhesive layer. Itoh disclose known methods, such as vacuum thin film method, to enhance adhesion of conducting layer on polymer film. However the adhesion of metal on polymer is not the concern of the present invention, since the present invention would use commercially available metalized substrate as in the case of Example 1. Nothing in Itoh teaches or suggests improving the adhesion of printing ink on aluminum or aluminum metalized substrate being pretreated in a process as in claim 1.

Borden discloses photosensitizer compositions useful for coatings and ink, comprising acrylated epoxidized soybean oil compound. Nothing in Borden teaches or suggest that the soybean oil compound composition can be used to improve the adhesion of printing ink on aluminum or substrate metalized with aluminum.

Kohler relates to mono- and bis acylphosphines oxide type photoinitiator and their use in curing photopolymerizable composition without unwanted yellowing. One skilled in the art would not have been motivated by Kohler's teaching of selecting yellowing preventing photoinitiator in order to solve the problem of obtaining strong adhesion of printing ink on aluminum or substrate metalized with aluminum.

In light of the present amendment to claim 1, Applicants submit that the present invention is not obvious over *Bauer*, or the combination of *Bauer*, *Itoh*, *Affinito II*, *Borden* and *Kohler*. Accordingly, Applicants respectfully request the withdrawal of obvious rejections of claim 1, 2-15 and 17.

In view of the current claim amendments and the above arguments, Applicants respectfully request the allowance of the patent application. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,

Date: July 27, 2011

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